Need and desirability

Supplementary information in terms of the Integrated Environmental Management Guideline: Guideline on need and desirability, 2017

1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?
1.1. How were the following ecological integrity considerations taken into account?:
1.1.1. Threatened Ecosystems: According to the Western Cape Biodiversity Spatial Plan 2017, the ecosystem threat status of the site is Least Threatened.

1.1.2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure: This does not apply to the proposal as the site is currently used for grazing purposes with no significant human resource usage and development pressure.

1.1.3. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"): The CBA mapping in the northern extent of the site is questionable due to its patchy distribution. In the southern reaches of the site there will be a loss of approximately 3960m^2 of CBA 1: Terrestrial, in addition to approximately 400m^2 of CBA 2 being lost. The loss is therefore negligible in terms of the Western Cape CBA totals. The loss of these CBA's is considered acceptable due to the importance of the proposal and the fact that the proposal will not limit connectivity between the coastal to mountain corridors located to the west and east of Dana Bay.

1.1.4. Conservation targets: North Langeberg Sandstone Fynbos FFs15: This vegetation unit is not listed as threatened, about 92% of it remains, while 13% is formally conserved in the Boosmansbos Wilderness Area and an additional 45% in mountain catchment areas (Mucina & Rutherford, 2006).
Canca Limestone Fynbos FFl3: According to the Biodiversity Survey, this vewgetation unit is not considered a threatened. Agriculture, alien species and coastal developments remain major threats for certain species restricted to this vegetation type. According to Mucina & Rutherford (2006), 86% of this vegetation unit is still left, however due to its poor conservation status its protection should remain a priority. Less than 1% is formally conserved in the Pauline Bohnen and Geelkrans Nature Reserves.

1.1.5. Ecological drivers of the ecosystem,

1.1.6. Environmental Management Framework: No EMF for the area where the proposal is located.

1.1.7. Spatial Development Framework: According to the Mossel Bay Municipality Spatial Development Framework (May 2018), the Dana Bay residents are concerned that they only have a single access road into the area off of Louis Fourie road next to Kwanonqaba. In addition, it also indicates that proposals have been made for a second access road to the

west linking up with the MossGas access road on the N2. Construction as mentioned must be investigated. The proposal is therefore in line with the Mossel Bay SDF (2018).

1.1.8. Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.): Due to the set back and elevated nature of the site from the High Water Mark (HWM) there are no requirements to address climate change issues such as a rise in see level.

1.2. How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?:
The route determination took the farm dams and topography of the site into account and avoids these areas as far as possible. The Alternative A (preferred) avoids the need for a large-scale diamond intersection with N2, minimizing the disturbance in that area. In addition the gravel road will have a lower impact on the environment.

1.3. How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?: Pollution from the proposal will be explored for the operational phase as all potential construction phase impacts will be mitigated through the implementation of the EMPr during the construction phase. During the operational phase potential pollution will extend from people littering out of their vehicles, oil from unkept vehicles (this must be addressed by the traffic department and unroadworthy vehicles need to be addressed), potential pollution from vehicle accidents. As the road will be kept locked at both ends, these potential operational phase impacts will only have potential in the event of an emergency when the road is needed.

1.4. What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?: General road construction related waste is expected during the construction phase. Waste such as packaging, wrappings, off-cuts, rubble inter alia. The financial repercussions of wasting materials on site and the travel costs associated with removing the material is the main incentive for the contractor to not be wasteful with materials on site. Inert rubble can be reused on site for infilling purposes within the proposed footprint, recyclable materials will be treated as such, separated from non-recyclables and transported to an appropriately registered recycling facility.

1.5. How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts? Heritage Western Cape indicated in their response to a HWC NID for the proposal that no further studies are required, however there are some rocks placed near a

sandstone outcrop which may be rock stock piles from agricultural activities or may be historic graves. The specialist conducted a site visit and has confirmed that the rocks are stockpiles and not graves.

1.6. How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts? The proposal will use some products derived from non-renewable natural resources, the proposal entails providing an emergency access road and is therefor necessary. Non-renewable resources such as gravel and rock will be used as well as diesel and petrol for the construction vehicles, there is no alternative when constructing roads.

1.7. How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?
The gravel and stone will be used from existing quarries. The diesel and petrol will also be used from existing sources.

1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)
The proposed Alternative A will have the least dependency on resources as the road will be gravel surfaced and only used in times of emergencies.

1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?) Infrastructure and emergency readiness is essential for the safety functionality of towns and municipalities and as such the proposal is a good use of resources.

1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources? Yes, because it will only be used in emergencies. Therefore no asphalt or expensive junction will be required.

1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts?:

1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?
Refer to BAR, Section J.2.4

1.8.2. What is the level of risk associated with the limits of current knowledge?
1.8.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?
The proposal is for emergency readiness and provides an emergency access road in the western end of Dana Bay

1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms following:
1.9.1. Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?
1.9.2. Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?
Refer to BAR

1.10. Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?
The proposal is in preparation of an event that require emergency evacuation to the west of Dana Bay, such as a fire sweeping for east to west, which will cut off the only road out of Dana Bay.

1.11. Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?
The proposal will slightly hinder ecological integrity however mainly due to the loss of mostly pasturelands and some indigenous vegetation in the southern reaches of the route.

1.12. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?
Refer to the BAR

1.13. Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?
Refer to the BAR

2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?:
2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,
2.1.2. Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),
2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and
2.1.4. Municipal Economic Development Strategy ("LED Strategy").
2.2. Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?
2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?
2.3. How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?
2.4. Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term?
Refer to the BAR

2.5. In terms of location, describe how the placement of the proposed development will:
2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other,
Not Applicable

2.5.2. reduce the need for transport of people and goods,:
2.5.3. result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),
Non-motorised transport (bicycles) will be able to use the road in an emergency

2.5.4. compliment other uses in the area, Yes, will compliment the current road network

2.5.5. be in line with the planning for the area, YES Refer to the BAR (IDP & SDF)

2.5.6. for urban related development, make use of underutilised land available with the urban edge, Not applicable
2.5.7. optimise the use of existing resources and infrastructure, Yes
2.5.8. opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement), No

2.5.9. discourage "urban sprawl" and contribute to compaction/densification, Not applicable

2.5.10. contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs, No

2.5.11. encourage environmentally sustainable land development practices and processes,

2.5.12. take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),

2.5.13. the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),

2.5.14. impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and : HWC has confirmed that this will not impact of Heritage resources.

2.5.15. in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement? Not applicable

2.6. How were a risk-averse and cautious approach applied in terms of socio-economic impacts?: only a gravel road is planned as the expensive asphalt road was scrapped as it is too expensive.

2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?
Refer to the BAR

2.6.2. What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge? Acceptable to low risk

2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?
The proposal is for emergency readiness and is therefore preparing for risks such as veld fires.

2.7. How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:

2.7.1. Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? The most direct route but one that avoided sensitive vegetation was chosen.

2.7.2. Positive impacts. What measures were taken to enhance positive impacts?

Refer to the BAR

2.8. Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)? All resources will come from licenced sources and existing material will be reused where possible.

2.9. What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?
An asphalt road was going to be too costly therefore a gravel road is proposed.

2.10. What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? The location of the proposal is appropriate for the desired outcome. Dana Bay residents and people that work in Dana Bay will benefit from the proposal.

Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered? The proposal is the proposed at the best practicable environmental option.

2.11. What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?
Temporary Jobs will be provided to the community during the construction phase

2.12. What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?
Refer to the BAR

2.13. What measures were taken to:
2.13.1. ensure the participation of all interested and affected parties: The public Participation Process will/has been undertaken in accordance with the relevant section in the current EIA regulations.

2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, All methods of Public Participation necessary will be used to effectively distribute information

2.13.3. ensure participation by vulnerable and disadvantaged persons, All vulnerable and disadvantaged persons will be included in the Public Participation process should they so desire.

2.13.4. promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means, The proposal is for the wellbeing (safety) of the community (Dana Bay).

2.13.5. ensure openness and transparency, and access to information in terms of the process, All documents will be made available on the SES website and additional information/clarity will be provided for those that require it.

2.13.6. ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, The legislated Public Participation Process ensures this

2.13.7. ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted? The legislated Public Participation Process ensures this by not discriminating.

2.14. Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g.. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)? To be revised after the initial PPP

2.15. What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected? Not applicable to this proposal and cannot be accounted for in this Environmental Assessment Process.

2.16. Describe how the development will impact on job creation in terms of, amongst other aspects:
2.16.1. the number of temporary versus permanent jobs that will be created, No permanent Jobs directly related, some maintenance opportunities in the future, therefore cumulatively creating more permanent jobs once current capacity to maintain infrastructure is exceeded. Construction phase job opportunities to be included into Draft/Final BAR.

2.16.2. whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area), Yes, labour skilled and unskilled does not pose a challenge in the area.

2.16.3. the distance from where labourers will have to travel, Proposed site is located approximately 4.5 km south west of the nearest informal settlement

2.16.4. the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), Proposed site is located approximately 4.5 km south west of the nearest informal settlement

2.16.5. the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.). No opportunity costs associated with the proposal. Opportunity costs are however associated with the no-go option with potentially high numbers of lives lost in the event of a veld fire sweep from east to west trapping people in Dana Bay with no exit route to the west.

2.17. What measures were taken to ensure:
2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, An Environmental Assessment PRactioneer (SES) with experience with the current polices and regulations was appointed to ensure compliance with all relevant and current legislation and policies.

2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures? The public Participation Process ensures this.

2.18. What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage? Not applicable, the proposal is on a privately owned farm. The current regulations however are in place to ensure this

2.19. Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left? Long term, the road must be maintained, the road will however be locked at both ends and only used for emergencies, drastically reducing the cost and frequency of maintenance.

2.20. What measures were taken to ensure that he costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment? An EMPr has been compiled to ensure that pollution, environmental degradation and consequent adverse health effects result from the proposal. In the case that this does occur as a result of non-compliance, the environmental regulations hold the person whom caused such impacts accountable and dealt with in accordance with the relevant regulations.

2.21. Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations? Already covered in the BAR

2.22. Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?
Refer to the BAR